

CLAIMS

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is as follows:

- 1 1. A field effect transistor comprising
2 a transistor portion comprising a source, drain
3 and gate formed in a semiconductor layer of a first
4 conductivity type,
5 a body contact to said semiconductor layer, and
6 a body control contact of a conductivity type
7 opposite said first conductivity type and interposed
8 between said gate and said body contact.

- 1 2. A field effect transistor as recited in claim 1,
2 further including
3 a connection between said gate and said body
4 control contact.

- 1 3. A field effect transistor as recited in claim 2,
2 wherein said contact to said semiconductor layer is
3 a region of said first conductivity type.

- 1 4. A field effect transistor as recited in claim 1,
2 wherein said contact to said semiconductor layer is
3 a region of said first conductivity type.

- 1 5. A field effect transistor as recited in claim 1,
2 wherein said contact to said semiconductor layer is
3 connected to a low voltage opposite in polarity to a
4 voltage applied to said field effect transistor.

1 6. A field effect transistor as recited in claim 1,
2 wherein said semiconductor layer is formed on an
3 insulator on a substrate.

1 7. A field effect transistor as recited in claim 1,
2 wherein said semiconductor layer is a silicon layer
3 of a silicon-on-insulator substrate.

1 8. A field effect transistor as recited in claim 1,
2 wherein a thickness of said semiconductor layer is
3 approximately 800Å and said body control contact
4 extends approximately 300Å to 350Å into said
5 semiconductor layer.

1 9. An integrated circuit comprising
2 a plurality of transistor portions comprising a
3 source, drain and gate formed in a semiconductor
4 layer of a first conductivity type,
5 a body contact to said semiconductor layer, and
6 a body control contact of a conductivity type
7 opposite said first conductivity type and interposed
8 between said gate and said body contact.

1 10. An integrated circuit as recited in claim 9,
2 further including
3 a connection between said gate and said body
4 control contact.

1 11. An integrated circuit as recited in claim 10,
2 wherein said contact to said semiconductor layer is
3 a region of said first conductivity type.

1 12. An integrated circuit as recited in claim 9,
2 wherein said contact to said semiconductor layer is
3 a region of said first conductivity type.

1 13. An integrated circuit as recited in claim 9,
2 wherein said contact to said semiconductor layer is
3 connected to a low voltage opposite in polarity to a
4 voltage applied to said field effect transistor.

5 14. An integrated circuit as recited in claim 9,
6 wherein said semiconductor layer is formed on an
7 insulator on a substrate.

1 15. An integrated circuit as recited in claim 9,
2 wherein said semiconductor layer is a silicon layer
3 of a silicon-on-insulator substrate.

1 16. An integrated circuit as recited in claim 9,
2 wherein said plurality of transistor portions.
3 include a complementary transistor pair.

1 17. A field effect transistor as recited in claim
2 1, wherein a thickness of said semiconductor layer
3 is approximately 800Å and said body control contact
4 extends approximately 300Å to 350Å into said
5 semiconductor layer.

1 18. A portable electronic device comprising
2 a portable power supply, and
3 an integrated circuit, said integrated circuit
4 comprising
5 a plurality of transistor portions comprising a
6 source, drain and gate formed in a semiconductor
7 layer of a first conductivity type,
8 a body contact to said semiconductor layer, and
9 a body control contact of a conductivity type
10 opposite said first conductivity type and interposed
11 between said gate and said body contact.

1 19. A portable electronic device as recited in
2 claim 18, wherein said integrated circuit further
3 includes
4 a connection between a gate a said transistor
5 portion and said body control contact.

1 20. A portable electronic device as recited in
2 claim 18, wherein said plurality of transistor
3 portions include a complementary transistor pair.